OTIS

CLASS ROOM LESSONS ON SYPHILIS

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CLASS ROOM LESSONS

ON

SYPHILIS

AND THE

GENITO-URINARY DISEASES.

FIRST FASICULUS.

Initiatory Period of Syphilis.

Nos. 1 to 8. 33 Pages.

Presented to the Students of the College of Physicians and Surgeons, *for careful study*, with regards of F. N. Otis, M.D.

Clinical Prof. Genito-Urinary Diseases, etc.

New York, February 28, 1878.

CHANCRE,

THE INITIAL LESION OF SYPHILIS.

CHANCRE:

1st.—Begins by a process of UNDUE GROWTH and MULTIPLICATION of normal germinal cells, induced by contact, (through a lesion of mucous membrane or integument,) with DISEASED or DEGRADED cells, derived from a person suffering from SYPHILIS.

2d.—Cells, thus generated, accumulate at the point of initiation, in a circumscribed portion of the surrounding and underlying tissue and also in the walls and interior of the blood and lymph vessels of the tissue so implicated, and thus form a characteristic neoplasm, which is termed the *Initial Lesion of Syphilis*—of which there are five characteristic forms, viz:

1st.—*The Indurated Papule.*
2d.—*The Dry Scaling Patch.*
3d.—*The Chancrous Abrasion.*
4th.—*The Saucer-Shaped Non-Suppurating Chancre, with indurated base and edge.*
5th.—*The Elevated, Moist, Velvety Papule.*

And as modifications,

The Mucoid Form.
The Inflamed or Suppurating.
The Phagedenic or Gangrenous.

Also modifications arising from

Implantation of the *Virus of Chancroid,*—or other *Vicious Secretion,* upon the Initial Lesion of Syphilis, of any one of the above described forms.

The Initial Lesion of Syphilis may be concealed within the orifice of meatus urinarius, the anus or the mouth.

CHANCROID,

THE VENEREAL ULCER.

CHANCROID.

1st.—Begins as a destructive process, either upon a pre-existing lesion, or upon sound tissue. It is usually set up by contact with the purulent secretion of a *similar* destructive process; *which had a similar origin;* or, which *may* have been developed from a suppurative process of a lower grade.

2d.—The destructive process thus initiated (either upon sound tissue or upon a pre-existing lesion) proceeds steadily to the formation of a pustule or an ulcerated surface by a more or less rapid, but always characteristic molecular necrosis. This necrosis, occurring under differing conditions, and in different localities, gives rise to characteristic forms of the Chancroidal lesion which may be described as follows, viz:

1st.—*The Chancroidal Abrasion.*

2d.—*The* Follicular *or* Pustular *Chancroid.*

This may be sub-divided into the *slowly destructive* and the *actively destructive* varieties.

And we may have as modifications of these,

From Conditions.	From Locality.
The Indurated Chancroid.	*The Papulo Pustular, or Acneiform.*
The Inflammatory Chancroid.	
The Phagedenic or Gangrenous.	*The Ecthymatous.*
The Serpigenous.	*The Bubonic.*

3d.—*The* Ex-Ulcerous *form of Chancroid.*

Modifications of all these forms, and varieties, by the *coincident development* of implanted Syphilitic elements on the site of the Chancroidal Lesion.

The Chancroidal lesion may be concealed within the meatus urinarius, or the anus, or (rarely) in the mouth.

INITIAL LESIONS OF SYPHILIS.

The differences in form of the Initial Lesion of Syphilis, are the legitimate and direct results of interference, to a greater or less degree, with the circulation of the tissues, at, or beneath, the point of initiation, of the abnormal cell growth. Thus, in regard to the first named form: The Indurated Papule is a dense neoplasm, in the cellular tissue: *movable* under the skin, and hence not materially impeding its functions. Complete absorption of this morbid growth may take place, and the organism become thoroughly contaminated with Syphilis, without the occurrence of any open lesion.

In regard the 2d form,

THE DRY SCALING PATCH,

(which always occurs upon integument.)

In this the cell accumulation is more diffused and quite superficial: producing an induration, which, to the touch, is like *parchment*, hence the term, "*parchment induration*," applied to this lesion. Interference with the circulation in this case, is not sufficient to prevent the evolution of the epidermis, but its development is impeded, and layers of dry epidermic scales cling to its surface, giving it a characteristic scaly appearance.

3d—THE CHANCROUS ABRASION

occurs upon an Indurated Papule, which by peripheral cell growth, has come to involve the circulation of the cutaneous or epithelial structures, to the extent of rendering them friable and easily abraded. Imperfect evolution of the underlying cell elements, results in a free shedding of the superficial layers, from the moist surface of the lesion. Under the microscope, these are seen to be like laminated epithelial scales, and constitute a significant mark of *Chancrous Abrasion.*

4th—THE SAUCER-SHAPED, NON-SUPPURATING CHANCRE, WITH INDURATED BASE AND EDGE.

In this form, a characteristic loss of tissue, has taken place, (almost entirely at the expense of the adventitious cell growth,) through the continuance and extension of the causes which produce the *Chancrous Abrasion*: Loss of tissue as in that case also, occurring, not through the suppurative or ulcerative process, but by that which Virchow has termed a *necrobiosis* (death from altered life), that is, from a gradual obstruction to the processes of nutrition of the affected part. The secretion of this form of Initial Lesion, scanty, free from pus, and presenting under the microscope the squamous epithelial elements found in the secretion of the chancrous abrasion.

5th—THE ELEVATED SOFT VELVETY PAPULE.

Is neither more nor less than the previously described lesion, "*The saucer-shaped, non-suppurating chancre, with indurated base and edge,*" upon which the *granulation tissue* of Billroth, has been developed. This tissue is described in Billroth's Pathology Am. ed. page 93, under the head of '*Proliferating fungous granulations.*' He says "The most frequent cause of the development of such granulations is, *any local impediment to healing, such as rigidity of the surrounding skin,* so that the contraction of the cicatrix is difficult. This rigidity, in the case of the soft velvety papule, is caused by the characteristic induration of syphilis, always associated with this form of Initial Lesion.

We shall consider next, the *modifications,* to which the different forms of Initial Lesions are subject.

THE MUCOID CHANCRE.

The Mucoid form is that modification of the *moist velvety papule*, which arises from the occurrence of a diptheric membrane, or deposit upon its surface, giving it the appearance of that secondary or constitutional manifestation of Syphilis, known as the *mucous papule*. This modification, usually takes place co-incidently with the appearance of mucous papules, or patches, in other localities. The *induration* associated with the *Initial Lesion*, thus modified, and its entire absence in the *mucous papule* will constitute the distinguishing difference between these lesions.

THE INFLAMED OR SUPPURATING CHANCRE.

In any of the open Initial Lesions, subjected to persistent irritation, from friction of clothes, repeated coition, application of caustics alcoholic excess,(especially in the scrofulous and debilitated,) an inflammatory action may be set up. This soon results in pus formation and a more or less active necrosis, so like in character, to that occuring in Chancroid, that errors in diagnosis are easy. The now purulent secretion of the Chancre, is found to be contagious, producing, by auto-inoculation, a sore, identical with true Chancroid, thus farther obscuring the differential diagnosis. Previous history, and the induration more or less distinctly marked, will usually be sufficient to establish the true character of this lesion.

THE PHAGEDENIC OR GANGRENOUS CHANCRE.

In certain cases of the Inflamed or Suppurating Initial Lesion, the indurated tissue becomes livid in color, quite suddenly, and exhales a peculiar sickening odor, announcing the occurrence of Gan-

grene. This results from arrest of the vascular supply to the induration, through an aggravation of the causes which led to the antecedent *necrobiosis*. This view is sustained by the known influence of mercury in staying or arresting the destructive process, thus set up in the initial lesion, while in any other form of Gangrene, the influence of this drug is known to be pernicious; and also, from the fact, that the loss of tissue is usually limited to the induration. When the death of tissue occurs, by molecular continuity, the lesion is said to be PHAGEDENIC, when the induration sloughs out *en masse* it is called GANGRENOUS. The influences which tend to convert the Inflamed or Suppurating Initial Lesion into the Phagedenic or Gangrenous, are *Predisposition to suppuration from any cause*, constitutional dyscrasia, alcoholic excess, low irregular life, etc.

MODIFICATIONS FROM IMPLANTATION OF THE VIRUS OF CHANCROID, OR OTHER VICIOUS SECRETION, UPON THE INITIAL LESION OF SYPHILIS.

All forms of the Initial Lesion of Syphilis may be modified and more or less obscured by the occurrence of ulceration. from any cause, upon the site of Syphilitic inoculation.

No surface changes at the point of entry of the syphilitic virus, or principle can affect the course of the syphilitic infection, after the disease germ has passed into lymph channels, (spaces or vessels,) below that surface. The characteristic local evidences of syphilitic infection, may however be modified, and more or less completely obscured, by

accidental lesions, such as Herpes, resulting from contact with vicious Vaginal and Uterine secretions, or, by contact of the lesion of syphilitic inoculation, with the virus of Chancroid.

Such Lesions pursue their course, uninfluenced by the syphilitic cell proliferation previously inaugurated, and may thus obscure diagnosis, until evidences of constitutional infection are manifest.

Hence, wherever the *possibility* of a syphilitic infection is present, any breach of tissue, whether a simple abrasion or fracture of mucous membrane or integument, or any vesicle or pustule, whether from general or venereal causes: whether healing as if simple, or pursuing the characteristic course of the Chancroid; then in such case, opinions as regard to the *presence* or *absence* of the *Initial Lesion of Syphilis*, must be reserved, until such time, from the date of latest exposure, *as will equal the longest period known to obtain between inoculation and Syphilitic infection*, as indicated by induration of the local lesion and enlargement and induration of the adjacent Lymphatic glands. This is not less than 40 days.

THE INCUBATION OF SYPHILIS.

This is a term usually applied to the period which elapses, from the date of inoculation, to the appearance of the characteristic Initial Lesion, and may vary in different cases, according to different authorities, from 1 to 70 days, the usual time being from 10 to 25 days Strictly speaking, Syphilis has no period of true incubation, inasmuch as the process cell proliferation is undoubtedly established at the moment the virus (disease cell or germ) comes in contact with the germinal or white blood cell of the human organism.

The immediate effect of such contact seems to be, a rapid increase in the process of proliferation of such of the normal white blood cells as have become contaminated, or degraded, by the influence of the virus (disease germ) of Syphilis. Through accumulation of this degraded product, the tissue, including the vessels of nutrition at the point of initiation of this process, becomes densely packed (Besiadecki) forming a neoplasm of greater or less extent. The process of degradation or infection, is confined to immediate locality of the inoculation, until the degraded cells have gained access to the interior of a lymphatic vessel. Through this channel the diseased cells are carried to the nearest lymphatic gland, (the *Gland of Connection* as it may be termed,) and here are arrested by the peculiar conformation of the gland structure, for a longer or shorter period, (usually about six weeks,) during which time there is no further evidence of constitutional infection.

This period of *apparent* rest is usually termed the *second* incubation of Syphilis.

NOTE—It is probable that the interval between the date of inoculation, and appreciable gland enlargement, is dependent upon the facility or difficulty with which the diseased cells gain access to the lymphatic vessel connecting the point of inoculation with the adjacent gland. Hence, at points, where the distribution of lymphatic vessels is most liberal, and most superficial, we should expect to find the *shortest interval,* between inoculation, and gland implication. This view is supported by the Clinical fact, that, in cases when the shortest interval occurs, the Initial Lesion, (in the male) is located at the frenum, or the anterior-inferior surface of the glans penis. From this point chiefly, the superficial lymphatic vessels radiate, and are, (according to Balaieff) "most *superficial,* rising, in this especial locality, until they lie just *underneath the epithelium,* (Physiology of Syphilitic infection, Otis 1871. p. 26.)" also ibid at p. 23 where it is shown, that, by direct introduction of the syphilitic element, into the *interior* of a lymphatic vessel, diseased action, in the gland of connection, is inaugurated at once.

CLASS ROOM LESSONS, No. 3.

TREATMENT OF CHANCRE, THE INITIAL LESION OF SYPHILIS.

1st by EXCISION.—Whenever a well-determined Initial Lesion is situated in loose tissue, (integument or folds of prepuce in males, or of the vulva in females) the earlier removal, by Excision, is accomplished the better. Not with the expectation of preventing constitutional infection, (which, as a rule, is inevitable before the local lesion is discovered) but, as far as possible, to remove a focus of dissemination for diseased elements, and to diminish the danger of conveying disease to others.

The infective neoplasm, whether under sound skin, or appearing in any one of the forms or modifications previously described, (except the Inflamed or Suppurating,) should be removed *entire*. The resulting wound heals, as a rule, by first intention. Even when the induration is large, little, if any, deformity remains after cicatrization. Practically the indurated tissue is a foreign body, and its thorough removal requires the sacrifice of but little of the surrounding healthy structure. Favorably situated open Initial Lesions, of long standing, may be promptly cured in this way.

For the performance of this operation—First cleanse the parts, thoroughly, by gentle bathing in warm water: in all open lesions, apply a solution of Carbolic Acid of a strength of one part of the acid to 40 parts of water, after which, raise the mass of induration between the fore-finger and thumb, and encircle it firmly at the base with a bit of fine silver, or malleable iron wire. The indurated part may be separated from the normal tissue in the same way by compression between the arms of a bent probe, being careful to include the entire induration.

Now with a narrow sharp-pointed bistoury, pierce the tissues at the centre, beneath the compressing wire or probe, and cut well

under and out, including all the indurated and a little of the sound tissue of that side. This effected, from the place of beginning, cut out in the same way on the opposite side. Be assured, by careful examination that every portion of the neoplasm is removed: then introduce interrupted sutures of silk or silver wire at intervals of $\frac{1}{4}$ of an inch.

The patient ahould be kept in the recumbent position, the parts constantly wet with Carbolated water, until the third day, when on removal of the sutures, union by first intention will, as a rule, be found to have taken place.

The resulting cicatrix may indurate, to a greater or less degree, but rarely, if ever, to the extent of inducing a solution of continuity.

In no case, does this procedure lessen the necessity for constitutional treatment. The indurated papule, when so located that excision is unadvisable, (as on the *glans penis*, or involving the tissues of the *corpora,*) may be subjected to applications of the Oleate of Mercury (6 per cent solution) or any correspondingly mild mercurial ointment. When the mucous membrane, or cuticle, covering the induration, is abraded, or at any stage of simple *necrobiosis*, dusting the surface with dry Calomel, and protecting it with a thin layer of dry lint, is often serviceable. Calomel in combination with Lime Water; in the proportion of a drachm to the pint: (*Lotio Nigra*) or Bichloride of Mercury half a drachm, to the pint of Lime water,(*Lotio Flava*) are also much esteemed as applications to the open Initial Lesion. The tissue metamorphosis, and absorption,which are requisite for the removal of the syphilitic neoplasm, are, most readily induced by the internal administration of some one of the various mercurial preparations. In all forms of the Initial Lesion, the chief obstacle to resolution or healing, is the *mechanical* interference to nutrition, occasioned by accumulated cell growth. Its removal must occur through the process known as *fatty degeneration*. The most active and reliable agent

in effecting this, and in promoting the necessary subsequent absorption and elimination, is Mercury; hence the internal administration of some mercurial preparation is *essential* in all well determined Initial Lesions. The Proto-iodide of Mercury, in pill ½ grain to one grain, three times a day. The Bin-iodide, in 1-20 to 1-12. The Bi-chloride, in doses of from 1-20 to 1-12 grains. The Mass. Hydrargyrum, from two to four grains, three times a day, until the constitutional influence of the drug is manifested by a spongy, and sensitive condition of the gums, or a slight mercurial odor in the breath.

The mercurial impression should be maintained as nearly as possible at this point, until complete absorption of the local neoplasm has been effected. Its further employment will be considered in the Lesson on treatment of General or Constitutional Syphilis.

Cleanliness;—freedom from friction, and irritation from all other causes:—simple diet, and abstinence from Alcoholic Stimuli, are necessary to the most favorable results in treatment of the INITIAL LESION, as well as all other forms of Syphilis.

In regard to the modifications of the Initial Lesion of Syphilis.

THE MUCOID FORM

requires in addition to the constitutional treatment, previously described, the application of the solid *Argentum Nitratis*, (or some other caustic) sufficient *only* to destroy and subsequently to repress the exhuberant granulations.

THE INFLAMED OR SUPPURATING INITIAL LESION

requires rest and opiate or sedative dressing, as, the *Lotio Plumbi et opii*, in the proportion of grs. 5. each, to the ounce of water; or the powdered *Iodoform*, simple, or with an equal part of *Tannic Acid*, which seems to deodorise, and, possibly, increases the efficiency of the *Iodoform*.

IN THE GANGRENOUS FORM,

the powdered *Iodoform* is efficient as an anti-septic.

Poultices of powdered charcoal are also of value: but the internal administration of Mercury, must not be neglected while the gangrenous action is limited to the induration. Occurring in debilitated or highly scrofulous subjects, as is usually the case, attention should be given to general support, by generous diet, Quinine and Iron. The *Potassio-tartrate of Iron* in 15 to 20 grain doses, (as recommended by Ricord) seems to exert a specific influence over gangrenous conditions.

It must not be forgotten that healing and apparent cure of the Initial Lesion, does not mean *cure* of *Syphilis*. After disappearance more or less complete, the induration may return. Not unfrequently, it may be observed to increase or diminish in apparant sympathy with the progress or abatement of the constitutional disease. From this fact the local induration has come to be considered by some, as a reliable barometer, by which the effect of general treatment may be appreciated. The duration of the Initial Lesion varies greatly in different cases, sometimes disappearing within a few weeks, and with it, every trace of induration; at others, it continues as an induration, more or less distinctly marked, throughout the active stage of the constitutional infection. Enlargement and induration of the lymphatic glands, nearest in connection with the Initial Lesion, constitute the first positive evidence of the progress of constitutional infection.

Concealed Initial Lesions; (as within the meatus urinarius or the anus) may be treated with bougies, or suppositories, medicated with opium, salicylic acid, or iodoform.

New York, December 13th, 1877.

No. 4.

CONTAGION OF SYPHILIS.

Recent investigations in regard to the disease germs of Contagious diseases, warrant the assumption of Dr. Lionel Beale (DISEASE GERMS, their NATURE and ORIGIN, London, 1872, Page 143, 21 seq.) that they are degraded cells, (bioplasts,) originally derived from the healthy elements of the human organism.

Having lost, by degradation, the capacity for development into useful tissue, they still retain the power of amœboid movement, proliferation, and vital sustenance.

This view affords a starting point for the rational explanation of Syphilitic Disease, which, so far as known, is confined to the human *germinal* elements. It is distinctly appreciable only in the lymphatic organs and channels, and in lesions which can be directly traced to disturbances of structure or function in the lymphatic system.

In complete accord with all that is known in regard to Syphilis, we may assume, that contact of normal germinal cells, (white blood corpuscles) with those which have been degraded through the Syphilitic influence, brings about a similar degradation in them: and these again, in the same way, acquire the power to degrade other normal germinal cells with which they may be brought into contact, whether in the same or in another person.

Thus the Syphilitic influence, at the point of original inoculation, in varying intensity, is transferred from cell, to cell, until its vitiating power is lost, by attenuation, or dilution, or until the entire organism is profoundly affected. Thus it is that we shall meet with Syphilis, in varying degrees of severity: from that where the subject passes through it with scarcely a single characteristic manifestation, to one, who, in its various periods, will present a classical picture of every phase of the disease.

Germinal cells from one source or organism, cannot come in contact with those of an independent organism, without a breach of tissue.

Experiments by inoculation of Syphilitic blood, and of the unmixed secretions of unirritated Syphilitic Lesions, have demonstrated the complete absence of any erosive property in the so called *virus* of Syphilis. In the wounds of such inoculations, healing was as rapid, and perfect, as in similar wounds where no inoculation had been made.

All the secretions of syphilitic lesions, and of the blood, during the active stage of Syphilis, (usually from one to two years) contain degraded germinal cells or disease germs, and are thus capable of communicating Syphilis.

The modes of transferance of Syphilis, from the diseased to the healthy, are three:—

1st. By DIRECT CONTACT of the diseased surface with an abrasion, or other breach of tissue, on a healthy person.

2d. By MEDIATE CONTAGION.

3d. By HEREDITARY TRANSMISSION.

Communication of Syphilis by DIRECT CONTACT, (as under the circumstances peculiar to the venereal act,) is the most frequent mode of the acquirement of Syphilis. In the Female, Initial Lesions, from this source, are most common in the vicinity of the *ostium vaginae;* especially so in the folds of mucous membrane about the *fourchette;* between the greater and lesser *labiae:* under the sheath of the *clittoris:* upon, and even within, the *meatus urinarius.* They are also found to occur, not unfrequently, about the *anus:* They are rarely found on the *os uteri,* and still more rarely on the *vaginal rugae.*

In the Male, the most frequent sites, are upon the *glans penis* and *prepuce:* occurring with especial frequency in the *sulci* by the side of the *frenum:* at the *meatus urinarius,* and in the *fossae glandis,* and occasionally on the integument of the *penis*

In both sexes the Initial Lesion is sometimes found upon either *lip,* in the angles of the *mouth,* or even within it, and also near, or

within, the *anus;* all as a result of direct contagion. Communication of Syphlis, by direct contact, through the act of *kissing*, is an accident of occasional occurrence. In this case, the inoculating secretion may be furnished, either by an *Initial Lesion*, or, by one of the common manifestations of active Syphilis, known as the *Mucous Patch.*

Initial Lesions are also found in various other localities, as solutions of continuity, *at any point*, may become the accidental recipients of the Syphilitic *contagium.* Usually, they are rare in proportion to their distance from the genitalia. Surgeons, Accoucheurs, and Gynecologists, are especially exposed to the peril of an innocent inoculation of Syphilis, by direct contact. Within the circle of my city acquaintance, at the present time, are three medical gentlemen who acquired Syphilis through an Initial Lesion on the right forefinger. In another case, a surgeon, also an acquaintance, received the Syphilitic inoculation in end of his right forefinger, through accidental puncture, by a spicula of bone, while amputating the leg of a Syphilitic subject.

Inoculation of Syphilis Through Mediate Contagion. Cells diseased by the Syphilitic influence, (or what is usually termed the Syphilitic *virus,*) may cling to substances with which they are brought into contact. All degraded animal cells, or disease germs, have the power of maintaining their vitality, for some, time after removal from the organism in which they have been developed. (Beale.) Any material, therefore, which has been in contact with the secretions of Syphilitic Lesions, or the blood of a Syphilitic, during the active stage of Syphilis, may prove the medium of communication of Syphilis to a healthy person, provided only, that the substance so contaminated, is brought into contact with a *lesion*, however slight, of the skin or mucous membrane.

The most common source of the *contagium*, in cases of Mediate Contagion, is the *Mucous Patch*, a constitutional Syphilitic Lesion, frequent upon the mucous membrane of the lips, mouth, and faucial

region, in persons passing through the active stages of Syphilis. The *Saliva* is thus impregnated with the Syphilitic disease germs, and, through it, a variety of domestic utensils, have been the known medium of Syphilitic inoculation, by contact with abrasions upon the lips of healthy persons, without regard to age or sex. In the same way, pipes, passed from Syphilitic mouths, cigars from Syphilitic cigar makers: canes, pencils, and even sticks of candy, contaminated by Syphilitic saliva, have effected a Syphilitic inoculation. Within the last 18 months, I have met with four cases, where there was undoubted proof of the acquirement of Syphilis through Mediate Contagion. One, of a young lady, with the Initial Lesion on the lower lip, acquired from her lover's kiss. The second, a physician, with the Initial Lesion just within the angle, (on the right side) of the mouth; from a Syphilitic friend's pipe. The third, in the same locality, appearing characteristically, about three weeks after a morning spent in a dentist's chair. The fourth, a worthy merchant, with his Initial Lesion, (well marked,) on his lower lip, with mucous patches in his mouth, and an accompanying Syphilitic Iritis. In this latter case, the only clue to the mode of acquirement of Syphilis, was the habit of passing among numerous clerks, and, occasionally, transferring a lead pencil from their desks to his mouth.

Well marked constitutional Syphilis, with complete absence of any genital lesion, was present in each case cited.

College of Physicians and Surgeons,
New York, Jan. 17th, 1878.

The foregoing typical cases, illustrative of the modes, through which Syphilis may be contracted by *Mediate Contagion*, (with the exception of the last,) were seen in consultation with Physicians from neighboring States. Such accidents however, are of more likely occurrence in great cities, where moral restraint is least stringent, and opportunity for acquiring Venereal Diseases most favorable. It becomes necessary therefore, in connection with cases of obscure disease, simulating Syphilis, to make a searching scrutiny of all incidents, conditions, and exposures, which may, in the light of possible accidents, point to opportunity of Syphilitc infection, through Mediate Contagion. The third case cited is of especial value, as conveying a lesson on the necessity of scrupulous care of instruments, used in operations about the mouth.

So simple a procedure as the depression of a patient's tongue, with a spatula, in examinations of the mouth and throat, may easily become the means of carrying the Syphilitic disease germ, to an abraded surface in a healthy person.

In all cases, therefore, where the same instruments are in use for different persons, after thorough cleansing, their passage *through the flame of an alcohol lamp*, should be systematically practised after every operation. The same procedure is equally indicated, in regard to instruments used upon other mucous membranes, as those lining the urethra, the bladder, the rectum, the eye. It is also essential, in all instruments used in cutting operations, at any point. Not the least important among the modes of conveying Syphilis, by Mediate Contagion, is that by *Vaccination*. Numerous well authenicated cases of this disaster, may be found recorded in any modern, systematic, work on Syphilis. Inoculation of Syphilis by Vaccination, may be effected either by an impure virus, or an unclean knife. Use of the Bovine virus, by means of a clean instrument, relieves this beneficent operation from the stigma of being considered a possible means of communicating Syphilis.

No. 5.

SYPHILIS BY HEREDITARY TRANSMISSION.

Heretofore in considering the modes of transmission of Syphilis, we have accepted the probable fact, that this disease is communicated by contact of a diseased, with a healthy, human germinal cell. We have now to consider, how diseased cells, in the adult, male or female, suffering with Syphilis, may be brought in contact with those of the embryo, or of the foetal organism. It is claimed that the foetus, through the natural processes of growth and development, may be built up from a Syphilitic seminal animalcule, (*spermatozoon,*) furnished by the male, in conjunction with an ovum furnished by a healthy, or even by a Syphilitic female, and may thus come to comparative maturity. Much clinical material has been adduced to prove this. On the other hand it is claimed, with equal proof of a similar character, that this is *never* the case; but that the Syphilitic influence, is *always* furnished by the *female;* presumedly communicated to the embryo or foetus, through contact with the nutritive elements, furnished by a mother, in whose organism, the degraded cells or disease germs of Syphilis are present.

Like most important questions in which Syphilis is involved, a solution of the foregoing, based on clinical evidence alone, is most difficult. The best proof of this statement is, that on either side of all such questions, the most experienced and competent observers, are ranged in nearly equal force. To constitute *Hereditary* Syphilis, either the embryo, or the foetus, must be infected. All infection during, or subsequent to birth, must be classed with one or other of the modes of transmission of Syphilis previously considered.

If we accept the Syphilitic influence to be, as previously claimed, a degraded formative cell, we may also accept, as a legitimate sequence, that, through this degradation, there is a loss of formative power; an inability to develope into any useful tissue.

The Contagion of Syphilis, as claimed, is always effected by contact of a *degraded*, with a *healthy* germinal cell. In a strict sense, therefore it is always localized. Cells, thus degraded, are practically emasculated; their capacity for usefulness is lost. Of necessity, then, *growth* of living tissue occurring, must take place through the *normal* cell elements, that is in those which have escaped this degradation. It is thus plain, that only a portion of the germinal material of a living organism can be affected by Syphilis. Sufficient germinal material, to carry on the processes of life and growth, must escape, or growth would be at once arrested, and life would cease. The possibility of involving, in the Syphilitic dyscrasia, so infinitesimal a fraction of a spermatic organism, as would still enable it, in conjunction with the ovum, to play an efficient part in the growth and development of the human embryo, is scarcely conceivable. Especially difficult, shall we find it to accept such a view, when we consider, that, once in connection with the ovum, the Syphilitic influence would be rapidly imparted to the germinal elements furnished by *it*. We may then, consistently, throw the great improbability of continued growth, (or indeed of any growth,) under such an unfavorable influence, into the scale with the clinical claims of those who *deny the possibility* of the embryo, or foetus, being infected with Syphilis, by the spermatazoa. With this view of the subject, the onus of Hereditary Transmission of Syphilis, is necessarily thrown upon the MOTHER, under all, even under apparently contradictory, clinical circumstances. Hence, when an embryo or foetus, is the subject of Syphilitic infection, we may conclude that it is the result of *contact* of its normal formative or germinal cells, with cells degraded through the Syphilitic influence, furnished by the nutritive fluids of the MOTHER; either directly through the circulation, or through degraded cells from her organism, gaining access to that of the embryo or foetus by their amoeboid power.

Hence, to make the Syphilitic infection of an embryo or a foetus possible, the organism of the MOTHER must *first* be infected with

Syphilis. The previous acquirement of Syphilis, by the MOTHER, from the Father: or through the secretion of a Syphilitic lesion, or from the blood of one suffering from active Syphilis, (by direct or Mediate Contagion) is necessary to the Syphilitic infection of a foetus or an embryo.

It is only during the active stages of Syphilis, (primary and secondary periods) that the contagious element of the different lesions of Syphilis and of the blood, is present; Therefore; Hereditary transmission of this disease is only possible during this time, (*usually* from one to two years). The Sequelae of Syphilis (tertiary and quarternary periods) contain no discovered elements of contagion. The most careful microscopical examinations have failed to discover in the products of *Tertiary Syphilis* (various forms of *gummata*, including eruptions) any thing besides the debris of normal germinal elements. Repeated inoculations of these products, have failed to disclose any contagious principle. *Without contagion there is no Syphilis.* Hence, we may reasonably conclude that Hereditary Syphilis, is only acquired during the active periods of the disease, and that in order to effect Syphilitic contamination of the embryo or foetus, the female organism must first be infected.

With this view of the maternal influence in Syphilitic infection of the foetus or embryo, cases reported, claiming such infection to have occured through the sole agency of the Father suffering with Syphilis, (the mother, up to this time, free from the disease) must be classed either among those instances referred to on page 12, where the characteristic features of the disease are absent, or so imperfectly developed as to have escaped detection.

The difficulty of instituting a thorough examination, under circumstances where it is necessary to avoid suspicion of its object; the want of tact, care, and experience, in detecting obscure evidences of this disease, have, without doubt, too often led to the acceptance of Syphilis acquired, through the paternal influence, where, under

other conditions, and in other hands, infection of the mother would have been recognized.

The following case will serve to indicate some of the various ways in which Syphilis may be overlooked, and further, to show important variations in time and manner of development of Syphilis from a similar source. Some three months since, Dr. W., a naval Surgeon, consulted me in regard to a small nodule on the *frenum preputialis*. An abrasion was discovered, after a suspicious exposure, some four weeks previous. This healed at once, as if simple, and nothing farther was noticed, until the nodule, about the size of a kernel of pearl-barley, was observed. Its surface was abraded, probably during a recent connection. Its scanty secretion was found under the microscope to consist chiefly of laminated epithelial scales. On account of the obesity of the patient, a satisfactory examination of the inguinal glands was impracticable. No enlargement could be felt. I advised excision of the neoplasm. This was done at once, and healing by first intention was complete within 48 hours.

A few days since (Dec. 15th) the Doctor called to say that the operation had evidently been efficacious in saving him from a general Syphilitic infection: That, he had positive proof of having, himself, communicated Syphilis, to a young lady, the night previous to the excision. In her case, an Initial Lesion followed, in due time after the connection, accompanied by inguinal gland enlargement and followed by general gland hyperplasias. She now had, in addition, a characteristic papular syphilide, and yet *he* claimed to be absolutely free from the least evidence of Syphilis.

A cursory examination appeared to confirm the Doctor's statement. This, however, appeared so improbable, that I at once instituted a more thorough examination, which resulted in the discovery, under a deep layer of adipose, of small, but characteristic gland enlargements, in connection with the Initial Lesion. The cicatrix on its former site was slightly indurated. Glands at a distance—epitrochlean

and post cervical regions, preceptably enlarged. Slight, but positive congestion of the fauces and a narrow, but characteristic, *mucous patch* hidden behind the anterior pillar on either side. These proofs of Syphilitic infection had escaped the anxious search and skill of the patient, also of a professional associate, who was a competent and experienced general surgeon.

Through evidence furnished by clinical cases, it has been claimed that Syphilis once acquired is never fully eliminated from the system, but that it exists as a possible infecting agent, after the stages which furnish *known* contagious elements are past. During more than twenty years of observation, and especial interest in regard to this point, I had been unable to find a single undoubted instance, where a person in the known *Tertiary* period of Syphilis, (and so demonstrated by the absence of the glandular enlargements characteristic of the active stages of the disease,) had been the proven carrier of Syphilis to a healthy person. I came to believe fully, that persons who had passed successfully through the so called *primary* and *secondary* periods, and so proven by complete absence of *primary* and *secondary hyperplasias*, that treatment was no longer necessary: that such persons might, if desirable, even, be permitted to marry, with the assurance that, through them, transmission of Syphilis to wife or child was impossible. This doctrine I had taught and practiced for a very long period, when a case came under my observation which, but for a mere chance, had unsettled me on this vital point forever. The important lesson, which it enforced, viz: *to distrust the value of purely clinical evidence*, may be profitably transmitted by the brief extract from my note book, which follows:

"Mr. Q., a young lawyer, age 25 years, acquired a well marked Initial lesion of Syphilis on the *glans penis*. His gland enlargements in the epitrochlean, cervical, and post cervical regions were characteristic—his roseola escaped observation, but a classical papular Syphilide appeared about the fourth month, and continued for several weeks. Ulcerations of the tonsils and *mucous patches* on the soft

palate and inner surface of the cheeks followed, but yeilded satisfactorily to treatment.

The gentle but persistent use of mercury internally and by inunction had been pursued from the first and through a period of 12 months, occassionally combined with the iodide of potassium. At this time, all glandular enlargements had disappeared, except a small one, the size of a pea, in the right *post cervical*, region. Treatment suspended for three months, when a thin diptheric patch appeared on the right side of the tongue, with slight induration. Treatment resumed, mercury, with iodide of potash. Patch on the tongue faded slowly out in about a month, but was replaced by another, on the opposite side, which continued about the same time, *cervical gland* not preceptably changed. A series of mecurial baths, and a course of Zittman's decoction, covering nearly three months longer: gland now scarcely felt. Patient very anxious to marry, but was advised to wait a full year. The next six months passed without any new development. *Gland* very small, but still recognizable, when the patient, now in good general health, married on his own responsibility.

One year after marriage the wife gave birth to a fine healthy looking boy. During the 5th month of lactation, the wife had Scrofulous abcess of the neck (inherited tendency) which alarmed the husband (fearing Syphilis) exceedingly. She recovered under simple treatment, and relief from nursing. Child healthy up to third year, when it died from tubercular meningitis, following scarlet fever. No salient evidences of Syphilitic taint. Fear that his old trouble had been in some way connected with his child's death made the husband very unhappy, and he frequently expressed the fear that he had, or might yet, contaminate his wife, to whom he was tenderly attached.

In Nov. 1870, Mr. Q. camplained of some swelling and soreness over the right tibia. A gummy tumor was found presenting, the size of a horse chestnut. Explained the nature of it, and put him on a mild mercurial, with large doses of iodid. potass., which resulted in its entire disappearance within a month. Both husband and wife continued healthy up to Oct. 1871, when one morning he called, in great distress, to say that his wife had some sores in her mouth, that resembled those of his early Syphilitic trouble. I did not hesitate to assure him that this was simply impossible; that his disease, if any trace of it remained, was beyond the fear of contagion. The spotless character and chaste deportment of his wife made me sure there could be no other danger, and I comforted him accordingly.

What was my surprise, on seeing her, to find, not only several characteristic mucous patches in her mouth, but on further examination, to discover four or five mucous tubercles: one on the inner bor-

der of the thigh, and the others on the right labium. I was forced to acknowledge to the wretched husband, that he was right, and we could only conclude that, contrary to all my assurance and belief, that his old taint had been the cause.

Here was a dilemma. I could not suspect the wife. I could not accept the contagion from a source which stultified all my conclusions, teaching and experience. I was wretched. Husband was wretched, but resigned, so only, if not necessary to her recovery, that I could keep the secret from his wife. She was serene—after a few weeks medication and not unfrequent painful applications of caustic to the mucous tubercles, I thought she was *too serene*. I asked and received permission from the husband to tell his wife what her trouble was, if I thought it best. I changed my manner to her, and from being sympathetic and considerate, I became brusque and reserved—an explanation was finally demanded. I evaded the issue. After a little dexterous fencing, the source of her troubles was flatly demanded. Ignorance of my meaning was feigned.

I explained the only causes of her disease, and said she had been married too long to suspect her husband. She promptly replied that he was "as pure as the sun." I then told her if she would give me her confidence, I would protect her—if not, would lay the matter before her husband, (who was not supposed to be aware of this nature of the disease.) Then came tears—reproaches—and finally, in a tempest of womanly indignation she bade me leave, forever. I left, disheartened and in disgrace—but before I was well on my way down stairs, I was recalled and amid tears and sobs: she confessed. A yachting excursion—an unexpected night at sea; exposure with an old lover and all this about three months before. If this were not sufficient, a letter subquently received from him—full of regret that he had discovered himself Syphilitic and inquiring if he had been so unfortunate as to have communicated the disease to her."

The subsequent progress of this instructive case was not peculiar. The lady made an apparently complete recovery in about a year. After another year, she again became pregnant—was delivered of a healthy child, now living, but died of puerperal fever, the third week after her confinement.

In carefully reviewing this history, it will be observed that while it is no exception to the rule that tertiary lesions are not contagious —it will show how easily they may achieve the credit due to the active manifestations of Syphilis.

College of Physicians and Surgeons, New York, Jan. 24th, 1878.

No. 6.

EARLY DIFFERENTIAL DIAGNOSIS.

The characteristic, and only constant feature of all lesions, during the active stages of Syphilis, is shown, by microscopic examination, to consist in a localized cell accumulation.

Consideration of the nature and behavior of this material, will afford intelligent aid, in a differential diagnosis, between the Initial Lesion of Syphilis, in its early period, and solutions of continuity from other causes. As far as known, Syphilis is primarily a process of cell growth, and accumulation, so rapid that it interferes with healthy *tissue* growth, by obstructing the processes of nutrition and development. Not of necessity interfering to the extent of causing death of tissue, but of impairing its vitality, and thus causing it to break down, more rapidly, under influences which favor solutions of continuity. Hence we have presenting, as *characteristic* Initial Lesions of Syphilis; either a neoplasm, dense, insensitive, and covered with unbroken, and apparently normal, cuticle or mucous membrane, or, from the causes above mentioned, some one of the various characteristic *solutions of continuity* described in Lesson 1st.

In addition to the foregoing *characteristic* lesions, we may also find early local disturbance, in various forms and from various causes, associated with the beginnings of Syphilitic cell accumulation, but presenting no features *characteristic* of Syphilitic inoculation.

The known fact, however, that Syphilitic infection, not unfrequently follows a wound of inoculation, which heals promptly, and with no subsequent solution of continuity, is sufficient to prove that *neither* INFLAMMATION *nor* ULCERATION *are essential features in a Syphilitic inoculation.*

Thus: wounds, abrasions, broken vesicles, pustules, or ulcers, *may* receive a Syphilitic inoculation, and progress or heal, as if no such inoculation had taken place.

It is then evident, that no *positive* differential diagnosis can be

made *at once*, between lesions which *will* be followed by Syphilitic infection, and those which *will not*. A positive decision cannot be rendered until after such *interval*, from latest exposure, as may be required to develope some characteristic cell accumulation: either on the site of the lesion or in the adjacent lymphatic channels and glands.

This *interval* is recognized by all authorities as a clinical fact and is characterized as "*The Period of Incubation of Syphilis.*"

The term was invented in accordance with a belief, (formerly prevalent) that the *virus* of Syphilis was a mysterious impalpable influence. That this, having entered the System at a given point, instantly permeated the fluids and solids of the entire organism. It then accumulated by "a kind of germination" until the point of "*saturation*" or extreme limit of tolerance, was reached. This event was announced by a peculiar and characteristic action, at the point of entrance of the virus, which was termed the *Chancre*.

It is plain, however, that such a view of Syphilitic infection, can have no support, if we accept the view of a cell degradation, and a systemic Syphilitic infection, in accordance with known histological physiological, and pathological laws.

It is then to the local conditions, at the point of inoculation, that we must look for the earliest evidences of Syphilitic action. This is afforded, at first, through the microscope, by discovery of a densely packed *non-inflammatory* cell accumulation, which steadily increases, until it is appreciable to the ordinary touch. The same cell accumulation is also seen to occur in the lymphatic vessels connecting the Initial Lesion with the adjacent lymphatic glands. These vessels are not unfrequently found obstructed and indurated, and, like knotted cords, the size of a crow's quill, or larger, often easily traceable to their gland termination. The associated blood vessels are never narrowed or interrupted from this cause.

NOTE.—The only recognizable cell accumulation in Syphilis, is confined to the lymphatic system. If, during the period of so called incubation, the Syphilitic influence has found access to the general circulation, no evidence of it has ever been discovered, in the condition of blood vessels, or of the blood, or in the conditions or sensations of the person so affected.

The local induration of a suspected lesion, however is not *positive* evidence of Syphilitic action. Cell accumulation sufficient in degree to produce well pronounced induration, may result from *irritation* of a *simple* lesion. Thus, an herpetic vesicle, or pustule, even a simple abrasion, through friction from clothes, or from applications of caustics, or astringents, may become indurated sufficiently to raise grave suspicions of Syphilis.

Induration, in such cases, is always the result of *inflammatory* action.

The induration of *Syphilis* is essentially, *non-inflammatory*. The differential diagnosis is aided by means used to combat the inflammatory condition. Under the influence of rest, and local sedatives, the *incidental* induration, is promptly dissipated; in the Initial Lesion of Syphilis the induration is made more salient. Sometimes, though rarely, the induration is quite obscured by a slight localized serous effusion, which gives it a bluish appearance. This, I have observed in two cases, where the lesion was on a finger. The same condition, quite frequently, succeeds well marked indurations, near the *fossa glandis*, and is so persistent as to become a valuable diagnostic mark.

The induration may be said to be *characteristic*, when insensitive, dense, and resistant, like cartilage. If pressed between the thumb and finger, it becomes exsanguinated, and like in appearance to the tarsal cartilage, when the eyelid is turned back.

Even this most positive evidence of Syphilis, cannot be accepted as conclusive. The induration of a commencing *epithelioma* simulates it very perfectly and, if an open lesion, its secretion under the microscope presents appearances almost identical. In summing up the whole matter, we are forced to confess that a final decision in any given case, is not warranted, until some other evidence, is present besides the appearance and character of the *local* lesion.

In all cases, where possible, *the person from whom Syphilis may have been acquired,* should be carefully examined.

In making such examination, search not only for the initial lesion, but for each of the possible *secondary* manifestations. Even when such are found, it must be borne in mind that, *a breach of surface on the person exposed,* is essential to the acquirement of Syphilis, and that this surface must be brought into CONTACT with the Syphilitic secretion, either *directly* or *mediately.* So that while the presumptive evidence furnished by *confrontation* is often strong, it is not *necessarily* conclusive.

The following cases will serve to illustrate the importance of caution in arriving at conclusions, in regard to the true nature of venereal lesions:

Case 1st.—Mr. T., aged 23, on the fourteenth day after his first and only connection, noticed a slight urethral discharge. Under the microscope this was found to be distinctly purulent. No pain on urination. Meatoscope showed the mucous lining of the urethra deeply congested for half an inch. Beyond this there was no purulent secretion; appearances normal. The difficulty was, evidently, not *gonorrhœal.* A *Syphilitic inoculation* was suspected. Examination of the woman with whom he had connection *showed her to be passing through the active stages of Syphilis.* No Initial Lesion was found; but the inguinal, epitrochlean, and cervical glands were characteristically enlarged. Several *mucous tubercles* were discovered within the vulva; one in the *cervical sulcus,* and three on the *os tincæ.* Besides these, was a double row around the *anus,* eroded and secreting pus freely. In the presence of such evidences of Syphilis, it seemed impossible that the young man could have escaped infection. The urethral discharge was probably caused by a Syphilitic inoculation which had not yet produced a well defined Initial Lesion. Inguinal glands of both sides slightly enlarged. Treatment for Syphilis deferred, (much against the patient's wish) until evidence of Syphilis should become more positive. *The urethral discharge gradually declined and disappeared entirely in about a month.* Up to the present time (4 years from date of exposure) patient has not had the slightest evidence of Syphilitic trouble.

Case 2d.—Mr. H., aged 30, had a suspicious connection in May last. On the third day following, he noticed several small pimples

on his prepuce. Fearing veneral disease, he consulted his family physician. who, at once, pronounced the trouble a simple *herpes.* A mild lotion was recommended. Under its use all evidences of disease disappeared, within a few days, and the patient was assured, in the most positive manner, that he was free from disease. June 10th, four weeks after the suspicious connec ion, (and more than two after he had been pronounced free from disease), the patient was brought to me by his physician for an opinion in regard to a small hard, eroded nodule on the former site of the *herpes.* Inguinal glands on corresponding (right) side, characteristically enlarged. My belief that the nodule was an Initial lesion of Syphilis was strongly expressed, and the gentleman was put upon a mercurial course. A month later, he called, presenting a well marked roseola, with the usual secondary gland enlargements. His wife, who accompanied him, had an indurated Initial lesion on the lower border of the meatus urinarius and well marked inguinal enlargement.

Case 3d.—Mr. W. V. No unusual trouble until 2½ months ago when 10 days after a suspicious connection he noticed a small sore on the right side of the penis. He consulted a surgeon, by whom he was informed that he had a "*Soft Chancre;*" that he would quickly destroy it by application of nitric acid, and further, that *there need be no fear of subsequent trouble.* The cauterization was made, was repeated several times, at intervals of three or four days; healing finally taking place in about three weeks. Patient had connection with his wife the night previous to receiving the surgeon's opinion that he had a *soft chancre*; no connection since.

This gentleman called upon me to ascertain the cause of a papulo-pustular eruption which was confined to the face and neck. I at once recognized it as syphilitic; examined the cicatrix, of the so called *soft chancre* and found it distinctly indurated. Gland enlargements of elbow and neck, all well pronounced and characteristic.

In answer to an anxious enquiry, as to the possible infection of the wife, I was obliged to admit the possibility of such a calamity. He assured me that she had been, and was then, perfectly well in every respect—"*except that she had some little swellings in the right groin; not the least pain.*" An examination of the lady, on the following day, disclosed characteristic gland enlargements, not only in the groin, but in the arm and neck. No search was made for the Initial lesion. She was put upon constitutional treatment for "*a form of leucocythemia,*" and remained in blissful ignorance as to the nature of her own and her husband's trouble.

No. 7.

PROGRESS OF THE SYPHILITIC INFECTION.

The term CONTAGION, has been used to designate the act by which, through cell contact, the Syphilitic influence is conveyed from a diseased to a healthy person.

By means of the influence thus communicated, proliferation and accumulation of degraded cells, at the point of original contact (or inoculation) are claimed to result in the establishment of the Initial Lesion of Syphilis, or *Chancre.* in its various forms.

The course of the disease beyond this point is indicated, *a priori* by the known fact* that all integumentary and cellular tissue are pervaded by lymph spaces and channels, which lead, more or less directly, into lymphatic vessels; and that the lymph current is constantly flowing, *from* the tissues, *toward* the lymphatic vessels and the glands in which they terminate.

Therefore a degraded germinal cell (Syphilitic) introduced into the tissues (as by an inoculation), unless carried directly into the interior of a blood vessel, must, (itself, or its vitiated descendents), of necessity sooner or later be carried along by the lymph current, to and into, the gland of connection.† All clinical observations confirm this view. First, in the discovery of indurated lymphatic vessels, leading, from the point of inoculation, to the gland in connection. Second, by the subsequent enlargement and induration of such glands, Third their acceptance as a necessary sequence of the inoculation, and as positive proof of the nature of the disease.

The process through which the Syphilitic influence, thus gradually advances and finally invades the general system, is termed the process of SYPHILITIC INFECTION.

*Stricker's Human and Comparative Histology, Sydenham Ed., Vol. 1. pp 307—*et sequitur.*

†NOTE.—"The wandering red blood globules, mostly again return into the circulation, through the lymphatics. The wandering white blood corpuscles probably return into the circulation in the same way."—Wagner's Manual of General Patnology, Am. Ed., p 151.

The progress of the *Syphilitic Infection*, from the date of its *genesis* at the point of inoculation, to its characteristic appearance in the glands nearest the point of inoculation, (the glands of connection,) varies in different persons, from causes not thoroughly settled, but which are indicated in note on page 8, lesson 2d.

The degraded cell elements, then, effecting an entrance into the substance of the lymphatic gland, are here detained by the peculiarities of the gland structure, and perhaps by other inhibitory influences, (see Physiology of Syphilitic Infection, page ,) for a period varying in different instances from 20 to 60 days, (see Physiology of Syphilitic Infection, page). This period is recognized by all clinical observers, and has been described as the second Incubation of Syphilis. It is certain, however, that no Syphilitic influence, has yet been discovered, in the general blood current, during this period, and there is sufficient reason to suppose that the diseased elements are confined to the glands of connection, and those intervening more deeply between these and the thoracic duct.*

The glands of connection become gradually enlarged, apparently through the proliferation and accumulation of cells in their interior.

When the Initial Lesion is located upon the genital apparatus, on the glans, or on the body of the penis, in the male, or on the labiae or within the vulva in the female, the lymphatic glands of the groin become enlarged, so that, as a rule, several may be distinctly recognized by the touch; varying from the size of a small pea, to that of a large bean. Sometimes these enlargements are apparently confined to the side,

*NOTE.—A similar inhibitory influence, exerted by the lymphatic glands, in cancerous diseases is cited by Virchow, in his Cellular Pathology, Am. Ed., pp 221, with the following explanation. "We can account for this by no other supposition than that the gland collects the hurtful ingredients absorbed from the breast, and thereby for a time affords protection to the body."

It has been suggested that if the disease were really so localized, prompt *enucleation* of the Initial Lesion and of the affected glands might prevent general infection. It must be remembered that the infective cells, each of which is potent to act as a starting point for systemic infection, are not only present in untold numbers at the point of inoculation, but that (as shown by Beisiadecki's microscopic researches,) the walls of the intervening lymphatic vessels, are lined if not packed with them. Hence any proposed surgical extirpation of the disease must imply the entire removal of all the lymphatic con-

corresponding with the Initial lesion—sometimes to the opposite side: usually however, the glands of both sides are more or less enlarged. Hard, nearly or quite painless, and moveable, their *gradual accession within two or three weeks, after a suspicious venereal exposure* is strongly indicative of Syphilitic origin, without regard to the character of the *local lesion.* If this is present, and indurated, the Syphilitic character of the trouble is no longer doubtful. It must however be borne in mind that glands enlarged through the influence of Scrofula, cannot be with certainty, distinguished from those of Syphilitic origin.

They are found in the same locations, and though usually less positively indurated, are still sufficiently so to prevent certain diagnosis. When the Initial Lesion is on the lips, or in the mouth, the submaxillary gland is affected. Wherever situated, it is always the *glands of connection* (*i.e.* those nearest to the seat of inoculation) which are involved. Such enlargements are called Syphilitic *Buboes.*

The complete freedom from true inflammatory action, which has been shown to characterize the induration of the Initial Lesion of Syphilis, and the lymphatic vessels in connection with it, is equally characteristic of the enlargement and induration of the associated lymphatic glands. When attaining sufficient size to interfere with freedom of motion of a part, or where, from any cause, they are subjected to undue pressure; a degree of tenderness may result. From the same cause, inflammation, and even suppuration, may surpervene in highly scrofulous subjects. Such accidents, however, are exceptional, and do not materially lessen the diagnostic value which attaches to *recent and painless* enlargement of lymphatic glands.

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nections of the Initial Lesion and the glands of connection. A procedure not only without sufficient promise of benefit at this stage of the infection, but even at the earliest date after inoculation, the necessary ignorance as to the degree of implication of the lymph spaces and vessels in the vicinity of the inoculation, would in all probability render all such means of preventing the spread of the infective processes of uncertain value.

Early excision of the Initial Lesion, may however, be found to modify the intensity of the subsequent general Infection. My own experience in 9 cases of excision, during the past 8 years, would warrant this inference.

The progress of the Syphilitic Infection, which has been steady and persistant, from the moment of inoculation to the engagement of the nearest lymphatic glands, appears now to be arrested. Gradual increase in their size and density, alone indicates the activity of the infective process, until, after a period (varying in different instances from 20 to 40 days) evidences of constitutional infection may appear.

Access from the surface, to the general blood current, through the lymphatic spaces and vessels, *necessitates* passage, 1st, through the gland in immediate connection; 2d, through any other glands or vessels which may intervene between them and the great lymph channels; passage from thence into the general blood mass is immediate.

Thus, the delay between appreciable implication of the glands of connection, and earliest evidences of constitutional Syphilis, is explained in accordance with known histological and physiological laws. Hence, it is only *after* a time sufficient for the the passage of the diseased elements through the natural barriers, the lymphatic glands, to the general blood channels, that Systemic infection can take place.

With this view of the *Progress of the Syphilitic Infection*, the interval between the date of inoculation and the introduction of the diseased elements, into the general circulation, may be appropriately termed the Initiatory Period of Syphilis.